

IN THE CLAIMS:

Claims 61, 66, and 72 have been cancelled. Claims 1, 2, 3, 15, 20-22, 34, 39-41, 60, 62, 65, 67, 70, 71, and 73 have been amended. New claims 74-79 have been added. Claims 1-4, 9, 12, 15, 20-23, 28, 31, 34, 39-42, 47, 50, 58-73, and 74-79 are pending in the instant application. The following is the status of the claims of the above-captioned application, as amended.

1. (Currently Amended) A method of producing a heterologous protein, comprising:
 - (a) cultivating a mutant of a parent *Bacillus* cell in a medium suitable for the production of the heterologous protein, wherein the mutant cell comprises a first nucleic acid sequence encoding the heterologous protein and a second nucleic acid sequence comprising a mutation ~~of that inactivates~~ at least one of the genes *cypX* and *yvmC*, wherein the mutation renders the mutant cell deficient in the production of a red pigment compared to the parent *Bacillus* cell when cultivated under the same conditions, wherein the *cypX* gene comprises the nucleic acid sequence of SEQ ID NO: 1 or comprises a nucleic acid sequence having at least ~~70%~~ 95% homology to SEQ ID NO: 1, and the *yvmC* gene comprises the nucleic acid sequence of SEQ ID NO: 7 or comprises a nucleic acid sequence having at least ~~70%~~ 95% homology to SEQ ID NO: 7; and
 - (b) recovering the heterologous protein from the cultivation medium.
2. (Currently Amended) The method of claim 1, wherein at least one gene of the second nucleic acid sequence is *cypX* comprising the nucleic acid sequence of SEQ ID NO: 1 or a nucleic acid sequence having at least ~~70%~~ 95% homology to SEQ ID NO: 1.
3. (Currently Amended) The method of claim 1, wherein at least one gene of the second nucleic acid sequence is *yvmC* comprising the nucleic acid sequence of SEQ ID NO: 7 or a nucleic acid sequence having at least ~~70%~~ 95% homology to SEQ ID NO: 7.
4. (Previously Presented) The method of claim 1, wherein the heterologous protein encoded by the first nucleic acid sequence is involved in the biosynthesis of a biopolymer.
- 5-8. (Canceled).
9. (Previously Presented) The method of claim 1, wherein the heterologous protein

encoded by the first nucleic acid sequence is involved in the biosynthesis of a metabolite.

10-11. (Canceled).

12. (Original) The method of claim 1, wherein the *Bacillus* cell is a *Bacillus alkalophilus*, *Bacillus amyloliquefaciens*, *Bacillus brevis*, *Bacillus circulans*, *Bacillus clausii*, *Bacillus coagulans*, *Bacillus firmus*, *Bacillus lautus*, *Bacillus lentus*, *Bacillus licheniformis*, *Bacillus megaterium*, *Bacillus pumilus*, *Bacillus stearothermophilus*, *Bacillus subtilis*, or *Bacillus thuringiensis* cell.

13-14. (Canceled).

15. (Currently Amended) The method of claim 1, wherein the mutant cell produces ~~at least about 25% less of the~~ no detectable red pigment compared to the parent *Bacillus* cell when cultured under identical conditions.

16-19. (Canceled).

20. (Currently Amended) A mutant of a parent *Bacillus* cell for producing a heterologous protein, comprising a first nucleic acid sequence encoding the heterologous protein and a second nucleic acid sequence comprising a mutation ~~of that inactivates~~ at least one of the genes *cypX* and *yvmC*, wherein the mutation renders the mutant cell deficient in the production of the red pigment compared to the parent *Bacillus* cell when cultivated under the same conditions and wherein the *cypX* gene comprises the nucleic acid sequence of SEQ ID NO: 1 or comprises a nucleic acid sequence having at least ~~70%~~ 95% homology to SEQ ID NO: 1, and the *yvmC* gene comprises the nucleic acid sequence of SEQ ID NO: 7 or comprises a nucleic acid sequence having at least ~~70%~~ 95% homology to SEQ ID NO: 7.

21. (Currently Amended) The mutant cell of claim 20, wherein at least one gene of the second nucleic acid sequence is *cypX* comprising the nucleic acid sequence of SEQ ID NO: 1 or a nucleic acid sequence having at least ~~70%~~ 95% homology to SEQ ID NO: 1.

22. (Currently Amended) The mutant cell of claim 20, wherein at least one gene of the second nucleic acid sequence is *yvmC* comprising the nucleic acid sequence of SEQ ID NO: 7

or a nucleic acid sequence having at least ~~70%~~ 95% homology to SEQ ID NO: 7.

23. (Previously Presented) The mutant cell of claim 20, wherein the heterologous protein encoded by the first nucleic acid sequence is involved in the biosynthesis of a biopolymer.

24-27. (Canceled).

28. (Previously Presented) The mutant cell of claim 20, wherein the heterologous protein encoded by the first nucleic acid sequence is involved in the biosynthesis of a metabolite.

29-30. (Canceled).

31. (Original) The mutant cell of claim 20, wherein the *Bacillus* cell is a *Bacillus alkalophilus*, *Bacillus amyloliquefaciens*, *Bacillus brevis*, *Bacillus circulans*, *Bacillus clausii*, *Bacillus coagulans*, *Bacillus firmus*, *Bacillus lautus*, *Bacillus lentus*, *Bacillus licheniformis*, *Bacillus megaterium*, *Bacillus pumilus*, *Bacillus stearothermophilus*, *Bacillus subtilis*, or *Bacillus thuringiensis* cell.

32-33. (Canceled).

34. (Currently Amended) The mutant cell of claim 20, which produces ~~at least about 25% less of the~~ no detectable red pigment compared to the parent *Bacillus* cell when cultured under identical conditions.

35-38. (Canceled).

39. (Currently Amended) A method of isolating a mutant of a parent *Bacillus* cell, comprising:

(a) introducing into the parent *Bacillus* cell a first nucleic acid sequence directing synthesis of a heterologous protein and a second nucleic acid sequence comprising a mutation ~~of that inactivates~~ at least one of the genes *cypX* and *yvmC*, wherein the mutation renders the mutant cell deficient in the production of a red pigment compared to the parent *Bacillus* cell when cultivated under the same conditions, and wherein the *cypX* gene comprises the nucleic acid sequence of SEQ ID NO: 1 or comprises a nucleic acid sequence having at least ~~70%~~ 95%

homology to SEQ ID NO: 1, and the *yvmC* gene comprises the nucleic acid sequence of SEQ ID NO: 7 or comprises a nucleic acid sequence having at least ~~70%~~ 95% homology to SEQ ID NO: 7; and

(b) isolating the mutant cell from step (a) comprising the mutation of at least one of the genes *cypX* and *yvmC*.

40. (Currently Amended) The method of claim 39, wherein at least one gene of the second nucleic acid sequence is *cypX* comprising the nucleic acid sequence of SEQ ID NO: 1 or a nucleic acid sequence having at least ~~70%~~ 95% homology to SEQ ID NO: 1.

41. (Currently Amended) The method of claim 39, wherein at least one gene of the second nucleic acid sequence is *yvmC* comprising the nucleic acid sequence of SEQ ID NO: 7 or a nucleic acid sequence having at least ~~70%~~ 95% homology to SEQ ID NO: 7.

42. (Previously Presented) The method of claim 39, wherein the heterologous protein encoded by the first nucleic acid sequence is involved in the biosynthesis of a biopolymer.

43-46. (Canceled).

47. (Previously Presented) The method of claim 39, wherein the heterologous protein encoded by the first nucleic acid sequence is involved in the biosynthesis of a metabolite.

48-49. (Canceled).

50. (Original) The method of claim 39, wherein the *Bacillus* cell is a *Bacillus alkalophilus*, *Bacillus amyloliquefaciens*, *Bacillus brevis*, *Bacillus circulans*, *Bacillus clausii*, *Bacillus coagulans*, *Bacillus firmus*, *Bacillus lautus*, *Bacillus lentus*, *Bacillus licheniformis*, *Bacillus megaterium*, *Bacillus pumilus*, *Bacillus stearothermophilus*, *Bacillus subtilis*, or *Bacillus thuringiensis* cell.

51-57. (Cancelled).

58. (Previously Presented) The method of claim 1, wherein the *Bacillus* cell is a *Bacillus subtilis* cell.

59. (Previously Presented) The method of claim 1, wherein the *Bacillus* cell is a *Bacillus licheniformis* cell.

60. (Currently Amended) The method of claim 1, wherein the mutant cell is further comprises a mutation of one or more genes which encode a protease deficient in the production of protease.

61. (Cancelled).

62. (Currently Amended) The method of claim 1, wherein the mutant cell is further comprises a modification of one or more genes selected from the group consisting of *spoIIAG*, *srfA*, *srfB*, *srfC*, and *srfD*, and *amyE* genes deficient in the production of surfactin.

63. (Previously Presented) The mutant cell of claim 20, which is a *Bacillus subtilis* cell.

64. (Previously Presented) The mutant cell of claim 20, which is a *Bacillus licheniformis* cell.

65. (Currently Amended) The mutant cell of claim 20, which is further comprises a mutation of one or more genes which encode a deficient in the production of protease.

66. (Cancelled).

67. (Currently Amended) The mutant cell of claim 20, which is further comprises a modification of one or more genes selected from the group consisting of *spoIIAG*, *srfA*, *srfB*, *srfC*, and *srfD*, and *amyE* genes is deficient in the production of surfactin.

68. (Previously Presented) The method of claim 39, wherein the *Bacillus* cell is a *Bacillus subtilis* cell.

69. (Previously Presented) The method of claim 39, wherein the *Bacillus* cell is a *Bacillus licheniformis* cell.

70. (Currently Amended) The method of claim 39, wherein the mutant cell produces at least

~~about 25% less of the~~ no detectable red pigment than when compared to the parent *Bacillus* cell
when cultured under identical conditions.

71. (Currently Amended) The method of claim 39, wherein the mutant cell is further
~~comprises a mutation of one or more genes which encode a~~ deficient in the production of
protease.

72. (Cancelled).

73. (Currently Amended) The method of claim 39, wherein the mutant cell is further
~~comprises a modification of one or more genes selected from the group consisting of *spoIIAG*,
srfA, *srfB*, *srfC*, and *srfD*, and *amyE* genes~~ deficient in the production of surfactin.

74. (New) The method of claim 1, wherein the mutant *Bacillus* cell does not produce spores.

75. (New) The mutant cell of claim 20, which does not produce spores.

76. (New) The method of claim 39, wherein the mutant *Bacillus* cell does not produce
spores.

77. (New) The method of claim 1, wherein the mutant *Bacillus* cell is further deficient in the
production of amylase.

78. (New) The mutant cell of claim 20, which is further deficient in the production of amylase.

79. (New) The method of claim 39, wherein the mutant *Bacillus* cell is further deficient in the
production of amylase.